

A Carbon Tax and the Risk of Inequity

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Behind Political Failures: Fears about Social Impacts

Disagreements about the best way to limit the social cost

- Adverse impacts on activity and employment
- Adverse impacts on the purchasing power of consumers

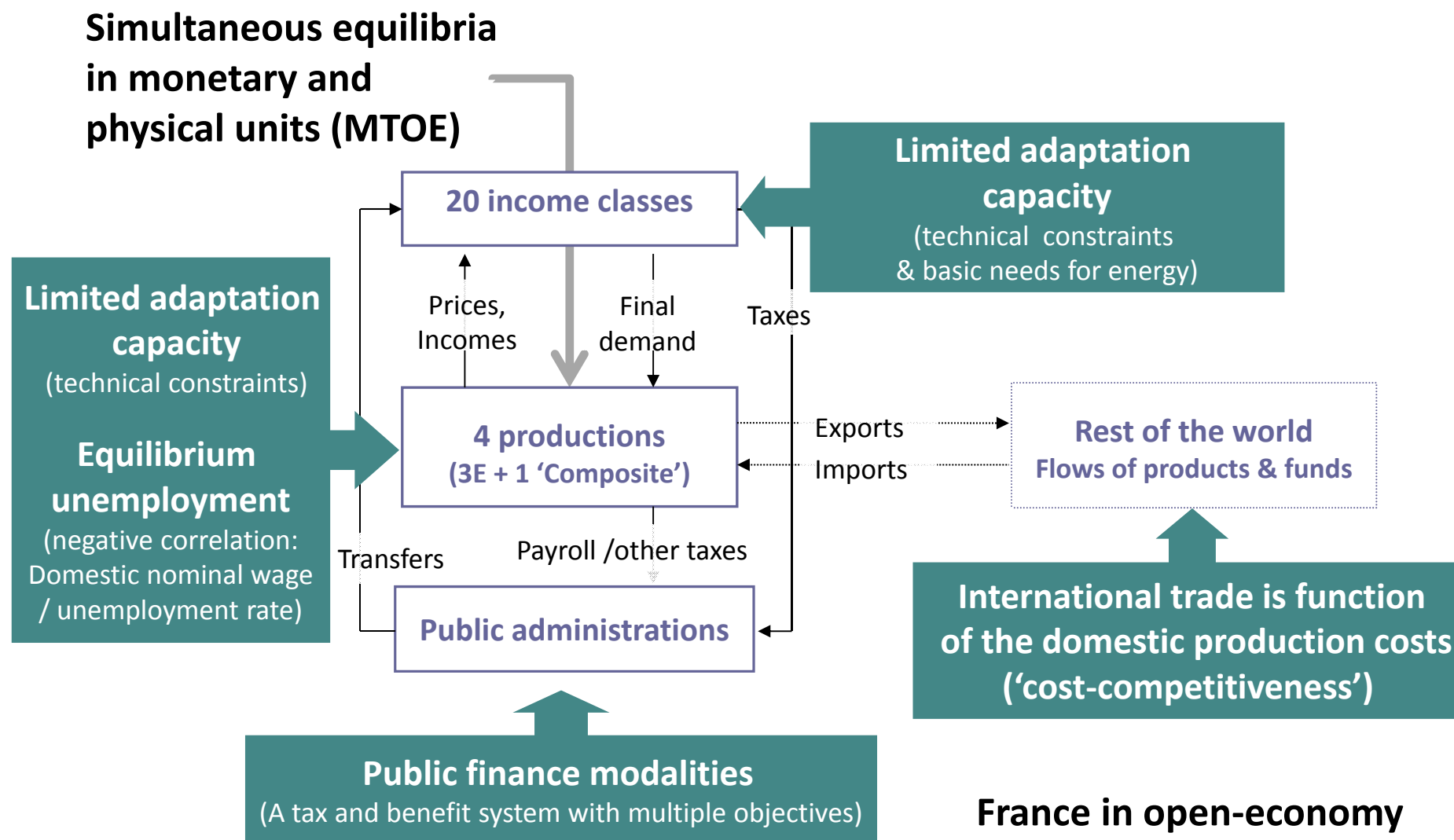
... and therefore about how to use the carbon tax revenue

- Business tax cuts or Labour tax cuts (“efficiency”)
- Direct compensations and redistribution (“equity”)

A Comparative Static Analysis

- Evaluation of long term impacts (20 years) of various revenue-recycling schemes on a same set of criteria
- Standpoint: 'the worst case' to cover misunderstandings
 - Unilateral CT without border adjustment, based on the carbon content of all consumptions, and reaching 300€/tCO₂ in 2004.
- Simulation of 'counterfactual France-2004' compared to a same reference situation (the historical 2004-France)

Key Features of the IMACLIM Model

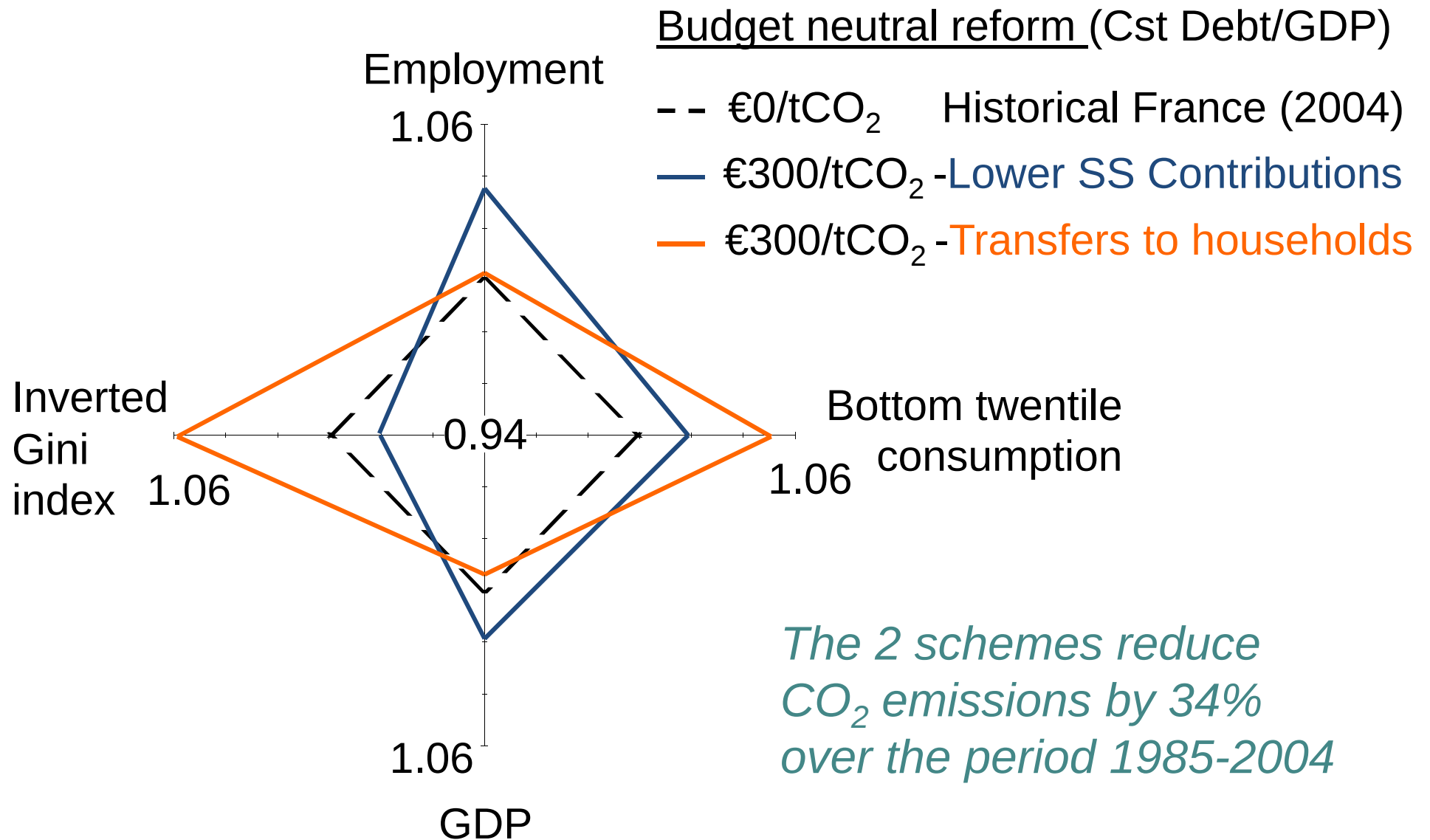


Let us start from two polar schemes

Two recycling options under the same 'budget neutrality'

1. Lower social security contributions rates
2. Direct and universal transfers to households

A Trade-off Between Equity and Efficiency



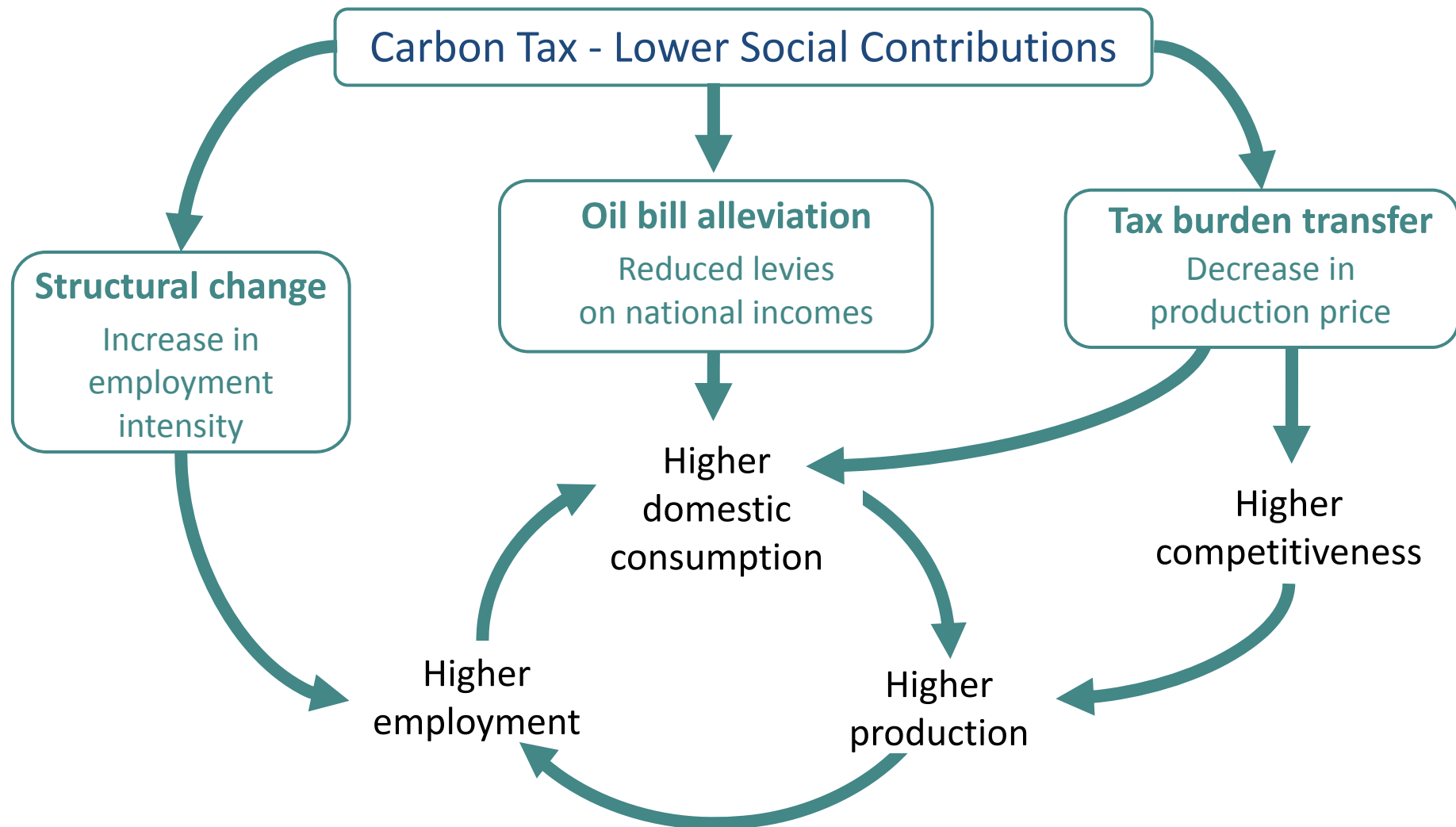
Two Contrasted Impacts on Production Costs

Carbon Tax (300€/tCO ₂)	Transfers to households	Lower social security contributions
Total variation	+3.7%	-1.0%
Energy costs variation	+1.6%	+1.6%
Net wages variation	+0.1%	+1.5%
Labour tax variation	id.	-3.6%

Lowering social security contributions on wages:

- Limit the propagation of costs increases
- Allow a higher progression of net wages

A Potential Virtuous Cycle for Activity and Employment



Poverty Alleviation... at Cost of Higher Disparities

€300/tCO ₂ & <i>Lower SSC</i>	Impacts on energy bills	Unemployment (% points)	Disposable Income	Gini inequality index
5% poorest	+78.3%	-12.2	+5.4%	+0.3 pts
5% richest	+72.0%	-0.9	+7.3%	

Main determinants:

- 1) Budget share devoted to energy, energy saving potential
- 2) Initial unemployment rates, jobseeker's allowance-wage gap
- 3) Relative weights of income sources (activity, property, transfers...)

Three Compromise Schemes

1. Mixed recycling

- Households: what they paid in uniform green check
- Firms: what they paid in lower SSC

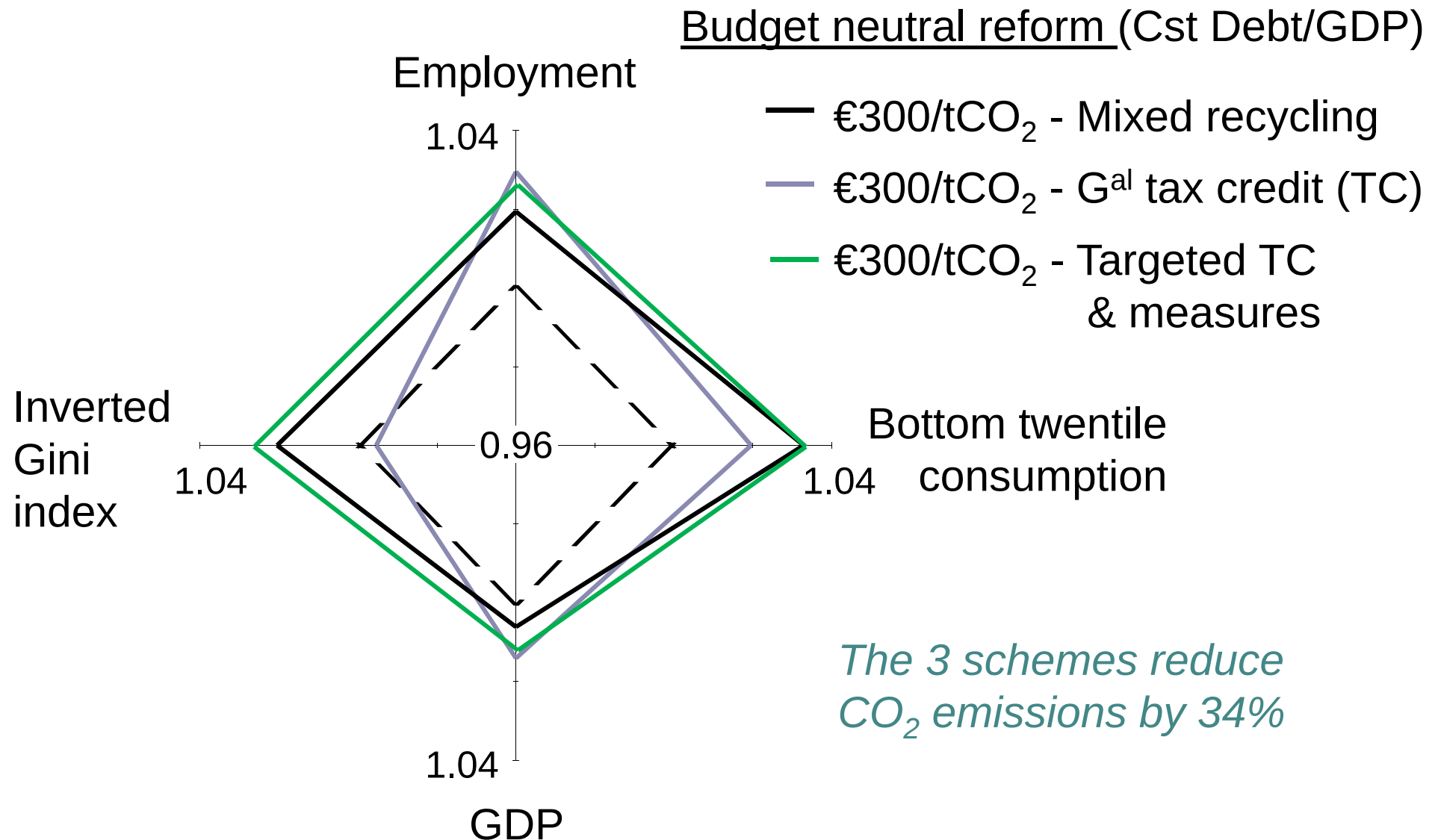
2. Generalised tax credit (TC)

- lump-sum rebate covering some levels of 'basic needs' (commuting by car + share of residential consumption)
- remaining proceeds and budget margin to SSC reduction

3. Targeted TC & measures

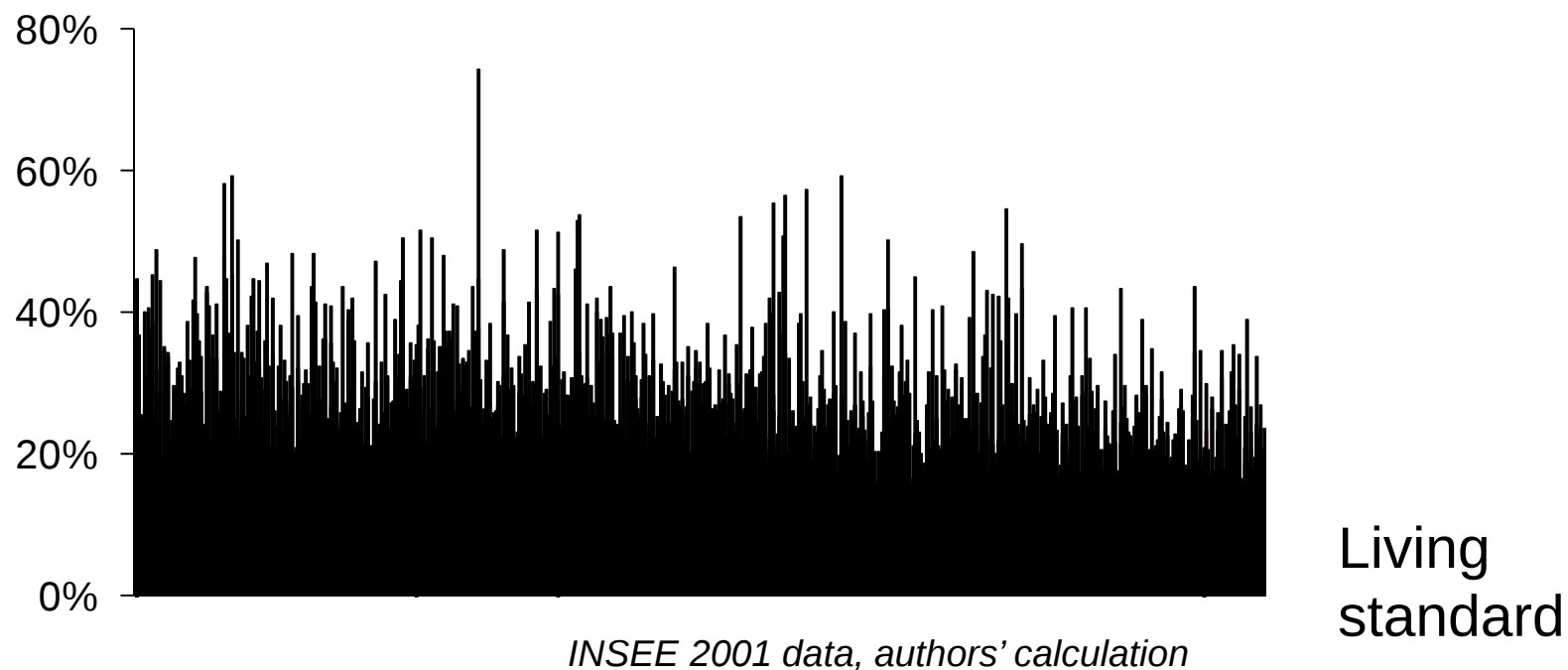
- same tax credit but limited to the 80% lower income
- remaining proceeds to SSC reduction
- budget margin: accompanying measures (80% lower income)

A Space for Reconciling Efficiency and Equity



But energy vulnerability is ill-explained by 'income'

Annual budget
shares of energy



A variety of technical, geographic and socioeconomic factors

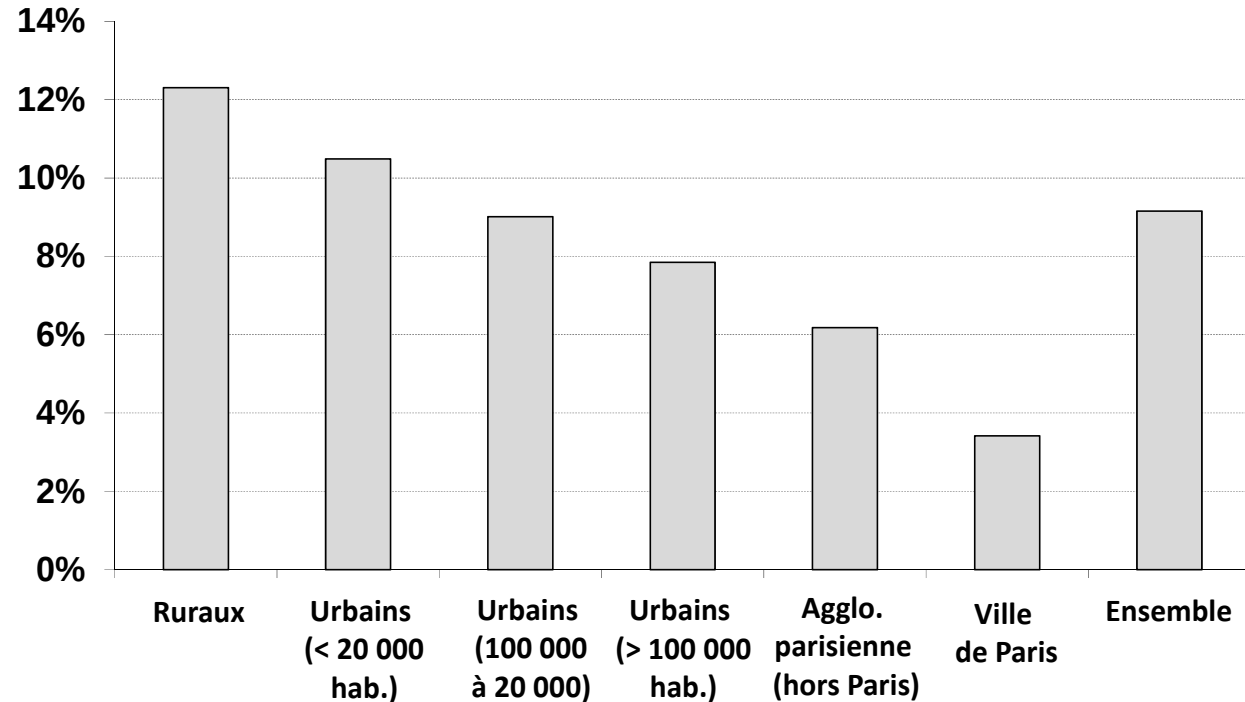
An Example: Territorial Inequalities

<i>Compensations without territorial differentiation</i>	Gini's inequality index (% points)
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According to income	-0,4
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According to location	+0,8
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Initial budget
shares of energy



Conclusion

Three crucial 'parameters' to find the best compromises

- Balance between wage progression, control of costs, redistribution
- Targeted support towards the most vulnerable to energy prices
- Balance between high redistribution costs and high targeting costs

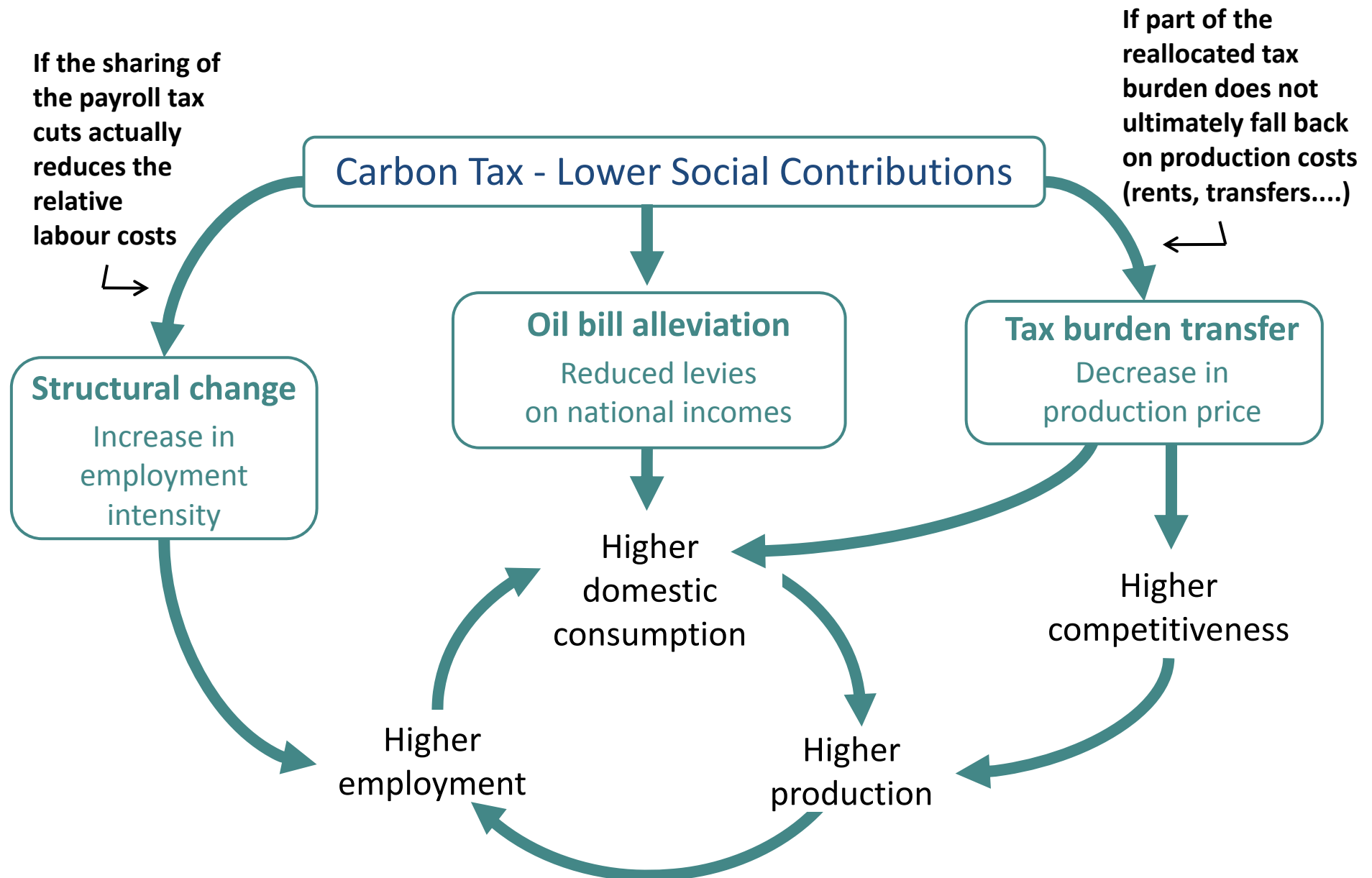
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Papers available on my personal web page at:

<http://www.imaclim.centre-cired.fr/spip.php?article23&lang=en>

A Potential Virtuous Cycle for Activity and Employment



Why it is Important to Target Compensations ?

300€/tCO ₂ (1984-2004) &	General tax credit (TC)	Targeted TC & measures
Portion of the tax revenue allocated to compensations	42,8%	24,3%
Production price	+1,3%	+0,3%
Nets wages	+4,0%	+5,7%
Real GDP	+0,6%	+1,2%
Employment	+1,9%	+2,7%
Inequalities (Gini index)	-0,3 pts	-0,4 pts